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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,961	07/10/2001	Kunio Shimizu	02860.0683	7969

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EXAMINER	
HON, SOW FUN	
ART UNIT	**PAPER NUMBER**
1772	

DATE MAILED: 04/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/900,961	SHIMIZU ET AL.	
	Examiner	Art Unit	
	Sow-Fun Hon	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15,16,18-24 and 26-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15,16,18-24 and 26-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/06/04 has been entered.

Response to Amendment

Withdrawn Claims

2. The 35 U.S.C. 103(a) rejection in the action mailed 08/26/03 has been withdrawn due to the amendment filed 02/06/04.

New Rejections

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 15-16, 18-24, 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US 6,512,562) in view of Mercurio et al.

Kobayashi et al. has a polarizing plate comprising a first protective film, a polarizing film and a second protective film (column 3, lines 50-60), wherein at least one of the first and the second protective films is a cellulose ester film (column 1, lines 60-65) comprising cellulose ester and fine particles (column 13, lines 65-70). The fine

particles have an average primary particle diameter of no more than 0.02 μm (20 nm) (column 13, lines 10-15) which means that the average aggregate particle diameter overlaps the claimed average particle diameter of 0.01 to 1.0 μm (claim 15). The fine particle content of the film is between 0.01 and 0.3 weight % (weight part per 100 weight parts of cellulose ester) (column 14, lines 25-30) which overlaps the claimed range of 0.005 to 0.3 weight % (claim 27). The fine particles are silicon dioxide particles (column 14, lines 25-30) (claim 28). The thickness of the cellulose ester film is 20 and 200 μm (column 16, lines 55-60) which overlaps the claimed range of 30 to 150 μm (claim 26).

As to claim 16, Kobayashi et al. teaches a liquid crystal display comprising a first polarizing plate, a second polarizing plate, a liquid crystal cell provided between the first and second polarizing plates (column 3, lines 50-55). Although Kobayashi et al. fails to teach that the second polarizing plate is arranged on the viewer side of the display, since the two polarizing plates sandwich the liquid crystal cell, one of the polarizing plates would be arranged on the viewer side of the display.

The first polarizing plate has a first (protective) film, a second (protective) film and a first polarizing film (polarizer) between the first and second (protective) films so that the second (protective) film is provided on the first polarizing film (polarizer) on the liquid crystal side (column 3, lines 52-62). The second polarizing plate has a third (protective) film (column 3, lines 62-68), a fourth (protective) film (column 4, lines 1-5) and a second polarizing film (polarizer) between the third and fourth (protective) films so that the third (protective film) is provided on the second polarizing film (polarizer) on the liquid crystal cell side (column 3, lines 62-68). The protective film is a cellulose ester film (column 1, lines 60-68) comprising cellulose ester and fine particles (column 13,

lines 65-70) with an average primary particle diameter of no more than 0.02 μm (20 nm) (column 13, lines 10-15).

As to claims 23-24, although Kobayashi et al. does not disclose the water absorption rate or the moisture vapor transmittance of the cellulose ester film, the cellulose ester formulation is taught to be soluble in organic solvents (column 17, lines 25-30), not water, which means that the cellulose ester is not soluble in water and hence hydrophobic. Thus a moisture vapor transmittance of not more than 250 g/m^2.24 h at 80 ± 5°C and at 90 ± 5 % RH, and a rate of mass change of not more than 2 % as measured at 23 ± 3°C and at 55 ± 3 % RH after the film has been stored at 80 ± 3°C and at 90 ± 3 % RH for 48 hours, and then stored at 23 ± 3°C and at 55 ± 3 % RH for 24 hours, for a 40 micron thick cellulose ester film of Kobayashi et al., are either inherent or the result of routine experimentation.

As to claims 20-21, Kobayashi et al. teaches the addition (column 24, lines 10-15) of acrylic esters (acrylates) (column 29, lines 40-45) containing a hydroxy group which is water-solubilizing as defined by Applicant's specification (original claims 4-5).

Kobayashi et al. teaches that the (acrylate) polymers have a weight average molecular weight of about 500 to about 500, 000 (column 26, lines 10-15). Kobayashi et al., however, fails to specify the upper limit of not more than 5,000 weight average molecular weight, and the amount present in the cellulose ester film.

Mercurio et al. has a 50 micron (μm) (2 mil) film (column 16, lines 10-20) cast from cellulose ester (acetate butyrate) and methyl methacrylate oligomer (column 16, lines 45-55), a polymer prepared by polymerizing an ethylenically unsaturated monomer which is an acrylic ester (column 3, lines 45-50). See structure of acrylic ester monomer below.

An oligomer is a very low molecular weight polymer of several monomer units, having a number average chain length of up to 25 mers (abstract), so that the low molecular weight polymer of methyl methacrylate has a weight average molecular weight about 400 to about 2,500 (column 2, lines 5-10) which is not more than 5,000 (claims 15-16). The amount of methyl acrylate (methacrylate or MA) in the film is at least 30 % (column 13, lines 1-5) (claims 18-19). A functional group used is hydroxyl (hydroxyalkyl substituted derivative) (column 3, lines 10-15) which is water-solubilizing as defined by Applicant's specification (original claims 4-5), and meets the dependent limitations in claims 20-21. The content of the polymer (oligomer) in the film is 30 weight % (the amount of cellulose acetate (resin) is 70 while the rest are solvents according to the statement in brackets) (column 16, lines 60-70). This value is within the claimed range of 0.5 to 30 weight % based on the cellulose ester film (claim 22). The film further contains fine particles (fillers) (column 9, lines 15-20).

Mercurio et al. teaches that the methyl acrylate polymer with weight average molecular weight of less than 5,000 is added to cellulose ester in order to modify the flow properties of the cellulose ester (for ease of processing) and yet not to plasticize it to any appreciable extent in order to allow it to retain its hardness (column 1, lines 55-60). Therefore it would have been obvious to one of ordinary skill in the art to have used the methyl acrylate polymer of no more than 5,000 weight average molecular weight, taught by Mercurio et al., as the acrylate polymer additive in the cellulose ester film of Kobayashi et al. because the low molecular weight of the acrylate polymer provides ease

of processing by modifying the flow properties of the cellulose ester and still allows it to maintain its hardness which is desirable in a protective film.

Response to Arguments

5. Applicant's arguments with respect to claims 15-16, 18-26 have been considered but are moot in view of the new ground(s) of rejection and the cancellation of claim 25.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571)272-1498. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sow-Fun Hon
04/26/04

HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

4/28/04